

Project Description

The I-70 Fast Track Project involves realigning and lowering a section of Interstate 70 adjacent to Indianapolis International Airport, constructing a new airport interchange, reconstructing part of Six Points Road, and constructing a new I-70/Six Points Road Interchange with connecting ramps to the new airport interchange.

This project will accomplish several purposes.

Increase the capacity of I-70 by adding mainline and collector-distributor lanes.

Provide a high capacity, high-speed interchange designed for exclusive Access from the interstate highway system to the new Indianapolis International Airport midfield terminal.

Provide direct access from I-70 (and the airport) to Six Points Road and adjacent commercial developments.

This project will also support and enhance long-term airport development opportunities by realigning and depressing a section of I-70 next to Runway 5R-23L. This will allow future taxiway construction over I-70 to link the existing airfield runway and taxiway system with a proposed new runway to the south. It will also provide space for additional airport development along Runway 5R-23L, where Federal Express operations are currently constrained by the convergence of the runway with I-70.

INDOT, the Indianapolis Airport Authority and the City of Indianapolis are the stakeholders for this project. All are involved in providing funds for implementation. They have requested that this project be fast-tracked so that the project can be opened to traffic by December 2004.

The Fast Track Process

A key element of the I-70 Fast Track process is a technique known as the Continuous Design/Construction Interface (CD/CI). The two primary components of CD/CI are the early preparation of a detailed Project Plan and

the continuous involvement of construction resources throughout the design process.

The Project Plan for the I-70 project was prepared following a "Red Team" review, involving some of the most seasoned professionals in the industry from both INDOT staff and the Consultant Team. The Project Plan presents a carefully crafted project delivery strategy, followed by detailed reviews of early contract requirements, traffic operations, structures, utilities, traffic management plans, schedule, and cost. This level of planning is essential for a successful fast-track project.

Continuous constructibility review is the second key element of CD/CI. Seasoned professionals experienced in highway construction provide a contractor's perspective at every stage of design development. They review probable construction sequences and materials availability to insure that constricted time frames of contracts are reasonable, assist in the preparation of specifications, interface with the local contracting community, and perform many other tasks not ordinarily conducted during the design phase. The CD/CI process retains the most important features of a traditional bidding process, while incorporating many of the benefits of a design-build approach. Its application on the I-70 Fast Track project represents a new approach to expedited project delivery for INDOT and the State of Indiana.

Schedule

The I-70 Fast Track strategy is to extend the design period by accelerating the preparation of contracts for the grading and drainage work along with certain critical structures, and to apply the CD/CI process at every stage. This will allow construction on grading and drainage to start October 29, 2002, and critical structures April 1, 2003. By accelerating the design of these elements, the rest of the design can extend into June/July, 2003. Bringing the start of construction forward and staging the bid packages will allow the utilization of smaller construction contract packages and will provide more achievable construction durations for the contractors.

An accelerated process to prepare the early Grading/Drainage/Stream Relocation contract was essential to meeting the overall project schedule. This contract was bid on October 9, 2002, and construction is currently underway. The second contract to be bid is the Critical Bridges contract, which will include three structures in the airport interchange and the foundations for future taxiways bridges across I-70. The planned ready for letting date for this contract is March 2003.

Phasing the design and accelerating grading/drainage work and critical structures as separate construction contracts will provide substantive benefits to INDOT, given the current and near-future market conditions. In addition to meeting the fast-track needs of the schedule, breaking the project into smaller contracts will allow competition from mid-sized local contractors.

The Critical Structures contract will be followed by a second Non-Critical Structures contract scheduled to begin in June 2003. Although these remaining structures are important elements of the project, they are less critical to the early start of work. These structures include all of the Six Points Road interchange bridges, the bridges over relocated White Lick Creek, and (potentially) the new bridge at High School Road.

A series of two paving/stripping/signing/lighting contracts are proposed for all road work except for High School Road and the mainline of Six Points Road. This is done mainly to provide opportunities for smaller contractors to bid on various construction packages. A letting date of May 2003 is planned for this contract. The first paving contract will consist primarily of construction activities away from existing I-70 to reduce any traffic congestion caused by the reconstruction of the roadway.

The Six Points Road portion of the project lends itself to a single contract with the exception of the embankment of the ramps and the approaches to the new Six Points Road bridge over I-70. This embankment work will be part of the early Grading/Drainage/Stream Relocation contract. The Six Points Road contract will be bid in summer 2003.

Given that High School Road is somewhat remote from the rest of the project and replacement of the High School Road bridge will require some realignment of High School Road the High School Road bridge replacement will be let as a separate contract. This is not high priority work and is not on the critical path, although half the structure will need to be completed by December 2003 to allow mainline traffic moves in 2004.

There will be seven separate construction contracts. Assuming that High School Road work is bid separately, the contracting sequence will be as follows:

1. Grading/Drainage/Stream Relocation (Entire Project)
2. Critical Structures (Airport Interchange)
3. Non-Critical Structures
4. Paving, Signing and Lighting (I-70, Airport Interchange)
5. Six Points Road
6. High School Road
7. Paving, Signing and Lighting (I-70)

The contracting sequence listed above has been formulated to optimize the design, bidding and construction process in order to meet the specific needs of this project. With careful consideration given to the schedule and interface issues, this should not present any unusual challenges in the management and coordination of the work.

Traffic Management Plan

A Traffic Management Plan has been developed to insure that the proposed sequence of work can be accomplished with minimal disruption to existing traffic. The two primary principles applied in the development of this traffic management plan are:

- I) Do not move traffic until it is absolutely necessary and
- II) After traffic has been moved, leave it in that location as long as possible.

These principles can be applied effectively on the I-70 Fast Track project since major portions of the construction will not occur within the existing

alignment. Generally, lane restrictions will be unnecessary during major earthmoving operations and while the realigned section of I-70 is constructed. This new section of roadway will then be available for traffic diversion in later phases.

Based on current plans, there will be no need to move traffic until spring of 2004, except for minor movements to construct structural piers in the mainline median. All major traffic moves will occur in 2004 and in several cases, when traffic is moved, it will be to its final location.

Final details of the Traffic Management Plan will be prepared as bridge piers are firmly located by the bridge study and construction sequences are developed.

The following is the current list of local roads slated for permanent closure beginning October 30, 2002.

Hanna Avenue Bridge -over I-70 (between Kollman and South Perimeter Rd.)

Bridgeport Road Bridge -over I-70 (between Stafford Rd. and Stanley Rd.)

Raceway Road -from 1075 East to Epler Road.

Epler Road -from Raceway to Bridgeport Road.

Stanley Road -from Bridgeport to Brushwood Road.

Thompson Road -from Stanley Road to Brushwood Road.

Scott Road -from south of I-70 to Hanna Avenue.

Kollman Road - small area just south of I-70.

[Click here for a road closure map](#)

Conclusion

In addition to identifying the formula for success, the Project Plan for the I-70 Fast Track project also identifies many challenges. Due to the interdependence of contracts, the Master Schedule has numerous critical dates that must be met. Every construction contract will be designed within a time frame that is constricted, and the time typically used for bidding and

award will be reduced. Construction duration will be relatively short and carefully monitored, with penalties for schedule overruns.

The Project Plan presents a strategy that will deliver a quality construction project within the short 32-month schedule using traditional design, bidding, and construction management techniques. This strategy was developed by defining a realistic contracting strategy, and testing and refining it through expert review. The key to success on this project will be to rigorously apply this strategy from the inception of project design through completion of construction.